Work Order ID 51882

Tuesday, September 08, 2009 3:06:43 PM

Item ID: D212-664-201 **Accept** **Setup Start** **Stop**

Revision ID: C

Item Name: Crosstube Aft

Start Date: 9/9/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 9/29/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Approvals: **Process Plan:** [signature] **Date:** 09-9-09 **Tooling:** _____ **Date:** _____ **Run Start** **Stop**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D212-664-241	Rev C								
100		0.00							
DC	DOCUMENT CONTROL								
Document Control	**Memo** Photocopy bluefile and create labels as per PPP D212-664-201	0.00	CHG003						
110	Pick Kit	0.00							
Packaging	Packaging								
Packaging	**Memo**	0.00							
120		0.00							
CNC Bend 2	BENDING MACHINE - CROSSTUBES								
CNC Alpha 160 Bender	**Memo** Bend tube as per Dwg D212-664-241 using CNC bender program 212-af and Folio FT007	0.00							

09/10/09 RDS

MB 09-09-24

Work Order ID 51882

Tuesday, September 08, 2009 3:06:43 PM

Item ID: D212-664-201
Revision ID: C
Item Name: Crosstube Aft
Start Date: 9/9/2009 **Start Qty:** 1.00
Required Date: 9/29/2009 **Req'd Qty:** 1.00
Reference:

Accept **Setup Start** **Stop**

Cust Item ID:
Customer:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC15- Crosstube Dimensional Check	0.00							
QC	**Memo**	0.00							
Quality Control									
140		0.00							
Crosstubes	Crosstubes								
Crosstubes	**Memo**	0.00							

1-Drill pilot holes in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551

2-Ream hole to finish size in tube as per Dwg D212-664-241using drill Jig DT8550 & DT8551.Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241

4-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-241

09-09-24

Work Order ID 51882

Tuesday, September 08, 2009 3:06:43 PM

Item ID: D212-664-201 **Accept** **Setup Start** **Stop**

Revision ID: C

Item Name: Crosstube Aft

Start Date: 9/9/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 9/29/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Crosstubes Chemical Conversion	0.00				(1)	0	–	AWM 9-9-24
HandFXtube	**Memo**	0.00							
Hand Finishing Crosstubes	Chemical Conversion Coat as within 24 hours of bending and drilling								
160	QC3- Inspect Part Finish	0.00				(10)	0		
QC	**Memo**	0.00							
Quality Control									
170	QC5- Inspect part completeness to step on W/O	0.00				(9)	0		
QC	**Memo**	0.00							
Quality Control									

Work Order ID 51882

Tuesday, September 08, 2009 3:06:43 PM

Item ID: D212-664-201 **Accept** **Setup Start** **Stop**

Revision ID: C

Item Name: Crosstube Aft

Start Date: 9/9/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 9/29/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Outsource process - NDT per QSI038 4.1	0.00							
Outsource2	**Memo**	0.00							
Outsource process - NDT	Liquid Penetrant Inspection as per QSI 038 Issue P/O: 10482 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order					CL 09/09/28 ①			
190	Receive & Inspect for Damage & Mat'l Certs	0.00							
Packaging	Packaging								
Packaging	**Memo**	0.00							
	Ensure copy of NDT results attached to work order.					09/09/28 ①			
200	QC5- Inspect part completeness to step on W/O	0.00							
QC	**Memo**	0.00							
Quality Control	Inspect for damage & ensure results are as per Dwg D212-664-241					MM 09 09 28 ①			

Work Order ID 51882

Tuesday, September 08, 2009 3:06:43 PM

Item ID: D212-664-201 **Accept** **Setup Start** **Stop**

Revision ID: C

Item Name: Crosstube Aft

Start Date: 9/9/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 9/29/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	Spray Painting per QSI005 4.2	0.00							
SprayPaint	SprayPaint					RT	09-09-29		
SprayPaint	**Memo**	0.00							
Spray Painting	1-Prime inside and outside crosstube as per QSI 005 4.2 2-Paint outside crosstube with White Imron as per QSI 005 4.2								
	PRIME: Start Time: 7:30 Fininsh Time: 8:30								
	PAINT: Start Time: 3:00 Finish Time: 4:15 RT 09-09-29								
220	QC14- Inspect Spray Paint	0.00							
QC						ml	09 09	30	(1)
	Memo	0.00							
Quality Control	Then,Wrap in plastic bag to protect from scratches								

Work Order ID 51882

Tuesday, September 08, 2009 3:06:43 PM

Item ID: D212-664-201 **Accept** **Setup Start** **Stop**

Revision ID: C

Item Name: Crosstube Aft

Start Date: 9/9/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 9/29/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230		0.00							
Crosstubes	Crosstubes					ml	09	09	30 (1)
Crosstubes	**Memo**	0.00							
Crosstubes	1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe								
	2-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs A/R 6398 Magnobond Batch: 111249 Expiry Date: 030010								
	3-Install clamps as per Dwg D212-664-241. Torque clamps to 80-100 in lb. ml 09 10 01								
240	QC5- Inspect part completeness to step on W/O	0.00							
QC	**Memo**	0.00 => S09/10/01				(X)	ø		
Quality Control									

Work Order ID 51882

Tuesday, September 08, 2009 3:06:43 PM

Item ID: D212-664-201 **Accept** **Setup Start** **Stop**

Revision ID: C

Item Name: Crosstube Aft

Start Date: 9/9/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 9/29/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250	Pick Kit	0.00				9/10/1	0		sp
Packaging	**Memo**	0.00							
Packaging									
260	QC4- 100% Inspect kits for completeness	0.00				(10)	0		
QC	**Memo**	0.00							
Quality Control									
270	Packaging	0.00				9/10/12			sp
Packaging	**Memo**	0.00							
Packaging	Identify and pack for shipping as per PPP D212-664-201								

=> S 8/7/10/01

REV E

Work Order ID 51882

Tuesday, September 08, 2009 3:06:43 PM

Item ID: D212-664-201 **Accept** **Setup Start** **Stop**

Revision ID: C

Item Name: Crosstube Aft

Start Date: 9/9/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 9/29/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
280	QC21- Final Inspection - Work Order Release	0.00							09/10/09
QC	**Memo**	0.00							
Quality Control									

11 09-10-09

Picklist Print

Tuesday, September 08, 2009 3:06:49 PM

Work Order ID: 51882

Parent Item: D212-664-201RevC

Parent Item Name: Crosstube Aft

Comments:

Start Date: 9/9/2009 **Required Date:** 9/29/2009

Start Qty: 1.00 **Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D212-664-201TRNRevC		Manufactured	No			110	Each	3.0000	1.0000			
Crosstube Turning Detail												

Warehouse Location	Loc Qty	Loc Code
Main Warehouse		
FG	3	
46386	1	
50991	1	
51220	1	

MB 09-09-29

D3595-063-530RevA		Manufactured	No			230	Each	108.0000	2.0000			
RUBBER CUSHION												

Warehouse Location	Loc Qty	Loc Code
Main Warehouse		
ST	108	
40780	2	
44998	2	
50030	104	

mt 09 09 30

Picklist Print

Tuesday, September 08, 2009 3:06:49 PM

Work Order ID: 51882

Parent Item: D212-664-201RevC

Parent Item Name: Crosstube Aft

Comments:

Start Date: 9/9/2009 **Required Date:** 9/29/2009

Start Qty: 1.00 **Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2940-1RevB		Manufactured	No			230	Each	44.0000	2.0000			
Support												

Warehouse Location	Loc Qty	Loc Code		
Main Warehouse				
ST	44			
24367	4			
25594	2			
45203	18			mf 09 09 30
47748	20			

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS21920-28		Purchased	No			230	Each	86.0000	4.0000			
Clamp(per MIL-DTL-8783C)												

Warehouse Location	Loc Qty	Loc Code		
OFFSHORE				
FG	5			
105884	5			
Main Warehouse				
ST	81			
106864	5			
108466	9			
108847	7			
109181	14			
109965	2			
111281	2			
111734	42			mf 09 09 30

Picklist Print

Tuesday, September 08, 2009 3:06:49 PM

Work Order ID: 51882

Parent Item: D212-664-201RevC

Parent Item Name: Crosstube Aft

Comments:

Start Date: 9/9/2009 **Required Date:** 9/29/2009

Start Qty: 1.00 **Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3428-1RevA		Manufactured	No			250	Each	31.0000	1.0000			
Placard												

Warehouse Location	Loc Qty	Loc Code
Main Warehouse		
ST096	31	
50790	31	

MS21042L6		Purchased	No			250	Each	725.0000	6.0000			
Nut												

Warehouse Location	Loc Qty	Loc Code
Main Warehouse		
ST	725	
105077	22	
110002	5	
111548	98	
111578	400	
112492	200	

Picklist Print

Tuesday, September 08, 2009 3:06:49 PM

Work Order ID: 51882

Parent Item: D212-664-201RevC

Parent Item Name: Crosstube Aft

Comments:

Start Date: 9/9/2009 **Required Date:** 9/29/2009

Start Qty: 1.00 **Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN960JD616		Purchased	No			250	Each	716.0000	18.0000			
Washer												

Warehouse Location	Loc Qty	Loc Code
Main Warehouse		
ST	716	
107242	3	
107959	6	
109371	8	
110704	23	
111193	10	
111607	4	
112314	662	

18 ✓ SP

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN6-40A		Purchased	No			250	Each	4.0000	4.0000			
Bolt												

9/10/1 SP

Warehouse Location	Loc Qty	Loc Code
Main Warehouse		
ST	4	
112314	4	

112314 SP

Picklist Print

Tuesday, September 08, 2009 3:06:49 PM

Work Order ID: 51882

Parent Item: D212-664-201RevC

Parent Item Name: Crosstube Aft

Comments:

Start Date: 9/9/2009 **Required Date:** 9/29/2009

Start Qty: 1.00 **Required Qty:** 1.00

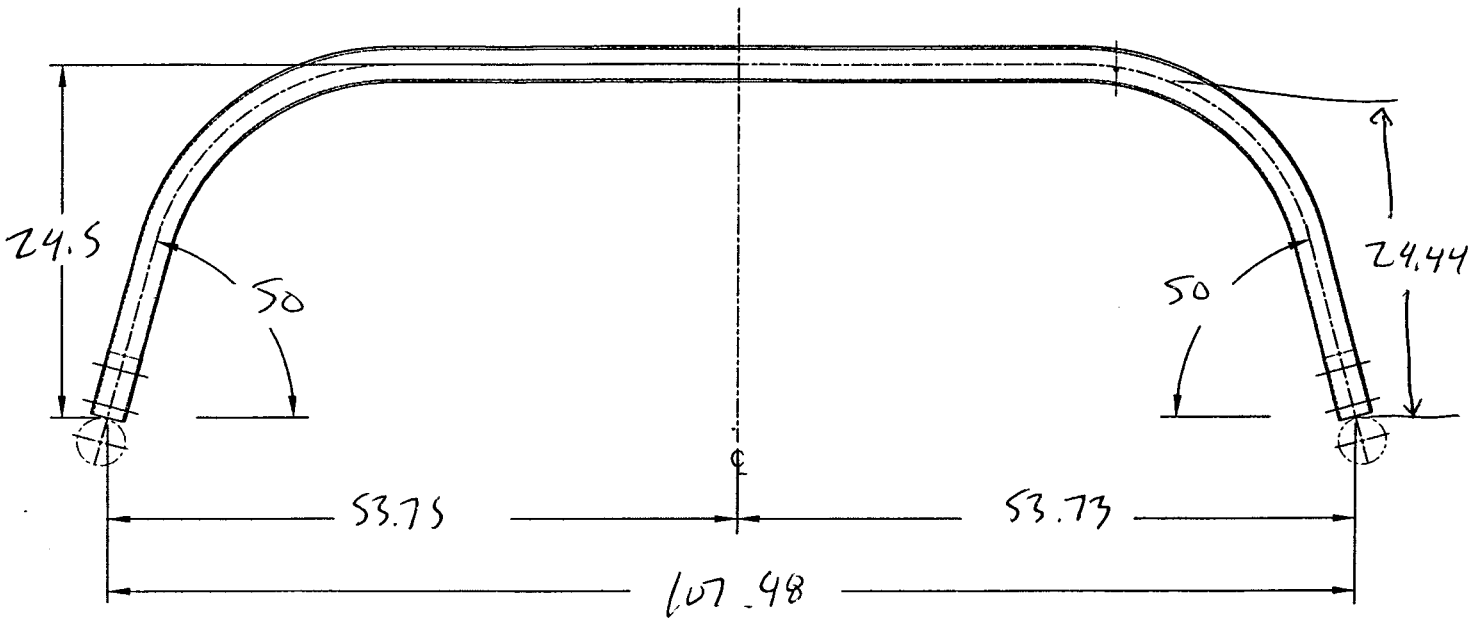
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN6-41A		Purchased	No			250	Each	53.0000	2.0000			
Bolt										9/10/1	SP	

Warehouse Location	Loc Qty	Loc Code
Main Warehouse		
ST	53	
111605	33	
112489	20	

111605 SP

DART AEROSPACE LTD	Work Order:	5187
Description: Crosstube High Aft (205/212)	Part Number:	D212-664-201
Inspection Dwg: D212-664-241 **Rev:** C		Page 1 of 1

Required Dimension	Min	Max
Height	24.17	24.43
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70



Comments
Tube high on one side. Acceptable GF 06.05.14

QC15 Inspection	GF
Date	06.05.14

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.08	Dimensions updated per Dwg rev. C	KJ/JLM	

DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D212-664-241 REV. C SHEET 1 OF 3
DATE 07.03.08		TITLE CROSSTUBE ASS'Y (205/212 HI AFT) SCALE NTS

A	00.12.12	NEW ISSUE
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES
C	07.03.08	REMOVE −1009 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS

RELEASED
07.04.24
PER ECN 859

DEO ATTACHED

Qty	Part Number	Description
X	D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
1	D6006-129	CROSSTUBE
2	D2940-1	SUPPORT
4	D3595-063-530	RUBBER CUSHION
4	MS21920-28	CLAMP (OR MS21920-30)
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

SHOP COPY
RETURN TO
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 57852

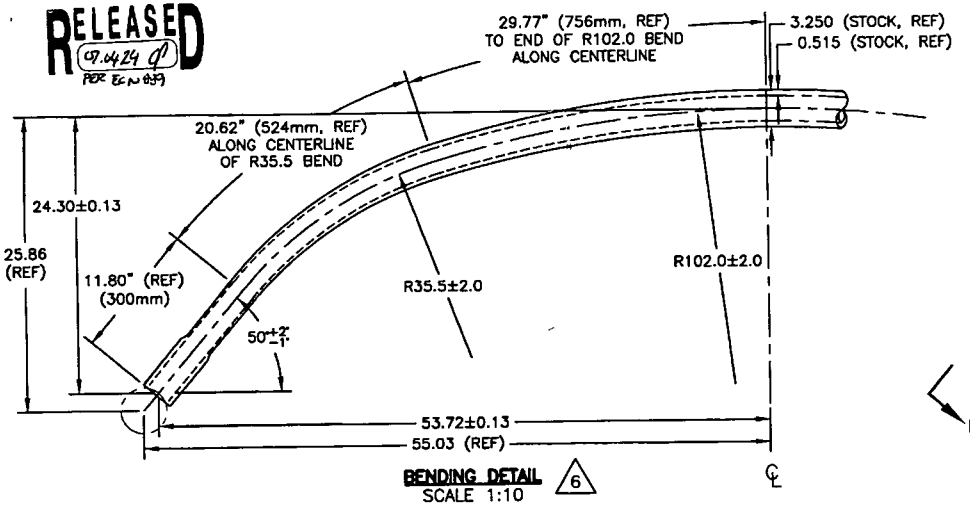
GENERAL NOTES:

1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
2) MATERIAL: MANUFACTURED FROM D6006-129
 FINISHED LENGTH = 124.36±0.020
3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
 PAINT OUTSIDE PER DART QSI 005 4.2
4) PART IS SYMMETRIC ABOUT CENTERLINE
5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD BE SMOOTH.
6) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
9) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
10) INSTALL MS21920-28 CLAMPS WITH D3595-063-530 RUBBER CUSHIONS TO SECURE D2940-1 SUPPORT ON TOP SIDE OF CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT
 NOTE: MS21920-30 CLAMPS CAN BE USED TO ACCOMMODATE VARYING DIAMETERS. ENSURE THERE IS A MINIMUM OF 1.5 THREADS IN SAFETY ON THE NUTS.
11) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
12) TORQUE CLAMPS 80 TO 100 IN-LB.

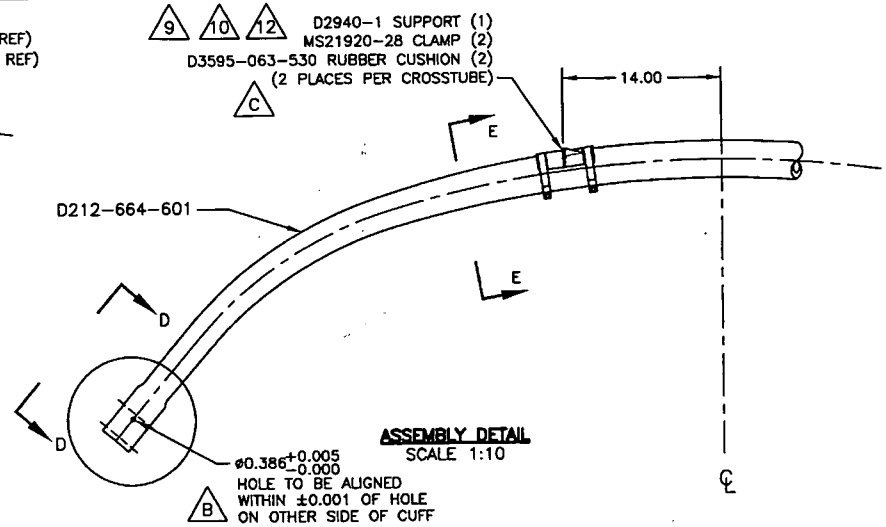
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51882

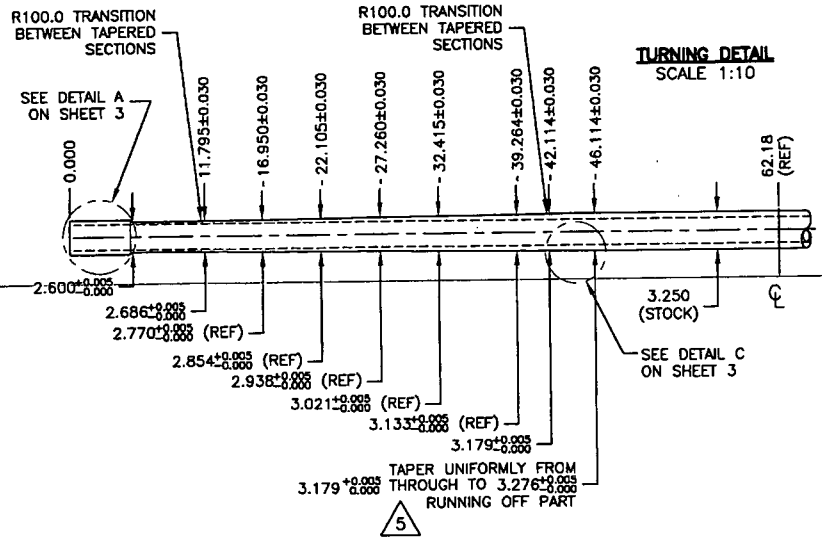
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07.4.24 QP
PER ECN 039



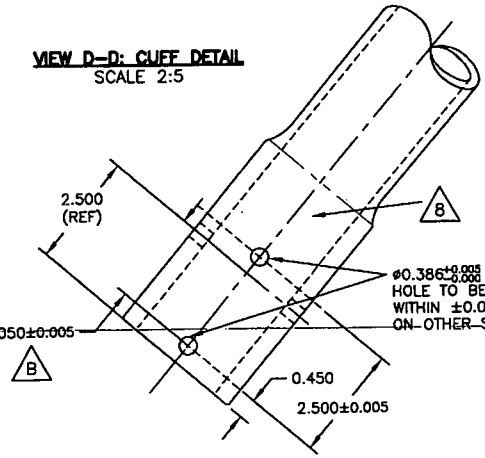
BENDING DETAIL
SCALE 1:10 △6



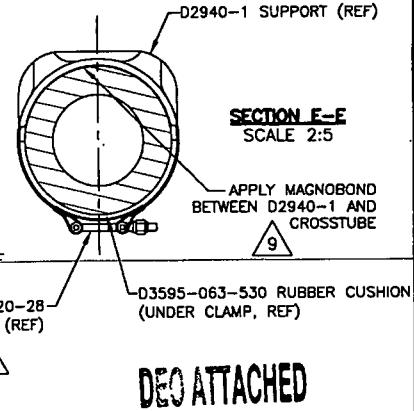
ASSEMBLY DETAIL
SCALE 1:10



TURNING DETAIL
SCALE 1:10



VIEW D-D: CUFF DETAIL
SCALE 2:5



SECTION E-E
SCALE 2:5

DEO ATTACHED

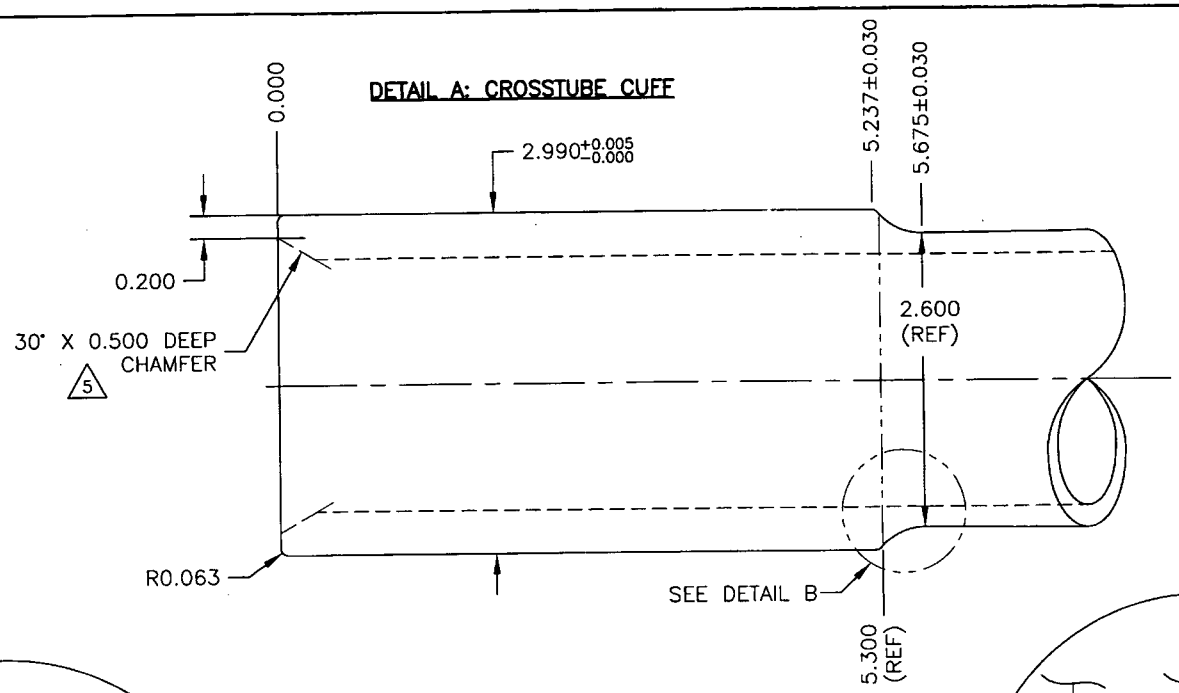
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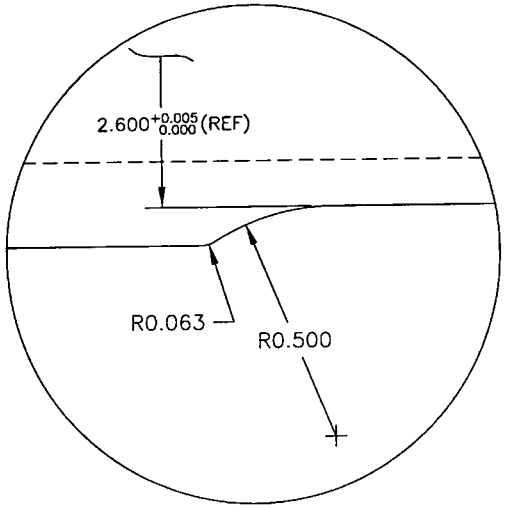
DESIGN	DRAWN BY	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
PH	PH	
CHECKED	APPROVED	DRAWING NO. D212-664-241 REV. C
		SHEET 2 OF 3
DATE 07.03.08		TITLE CROSSTUBE ASS'Y (205/212 HI AFT) SCALE 1:10

51882

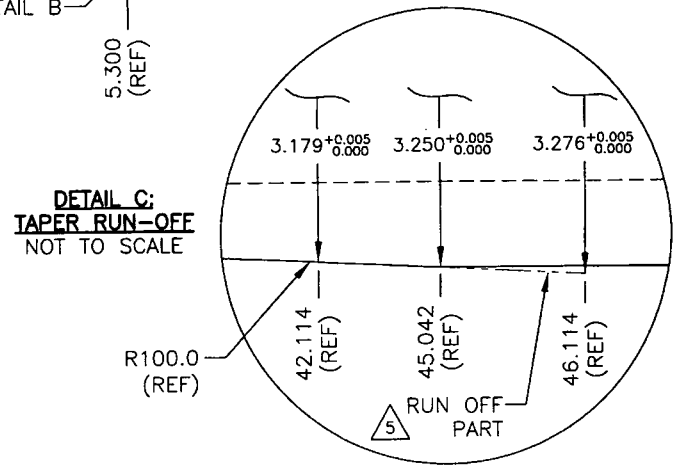
RELEASED
07.04.24
PER ECN 865

DEO ATTACHED





DETAIL B: CUFF TRANSITION
SCALE 4:1



DETAIL C:
TAPER RUN-OFF
NOT TO SCALE

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DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D212-664-241	REV. C SHEET 3 OF 3
DATE 07.03.08		TITLE CROSSTUBE ASS'Y (205/212 HI AFT)	SCALE 1:1

5188 2

DRAWING NO.	TITLE	REV.	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO.	SHEET NO.	SCALE
D212-664-241	CROSSTUBE	C		D212-664-241-C-1	SHEET 1 OF 1	NTS

DRAWN	CHECKED	MFG. APPR.	APPROVED	DE APPR.
DATE 09.05.01	DATE 09.06.15	DATE 09.06.15	DATE 09/06/16	DATE 09/06/16

CHANGE:
ADD THE FOLLOWING CROSSTUBE ASSEMBLY:

Part Number	Description
D212-664-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)

THE D212-664-241B CROSSTUBE HAS THE SAME PARTS LIST AS THE D212-664-241 CROSSTUBE. HOWEVER, INSTALL THE SUPPORTS AS SHOWN IN FIGURE 1 OF THIS ENGINEERING ORDER. THE NEW KIT IS OTHERWISE ASSEMBLED PER THE D212-664-241 CROSSTUBE.

RELEASED
09/06/22

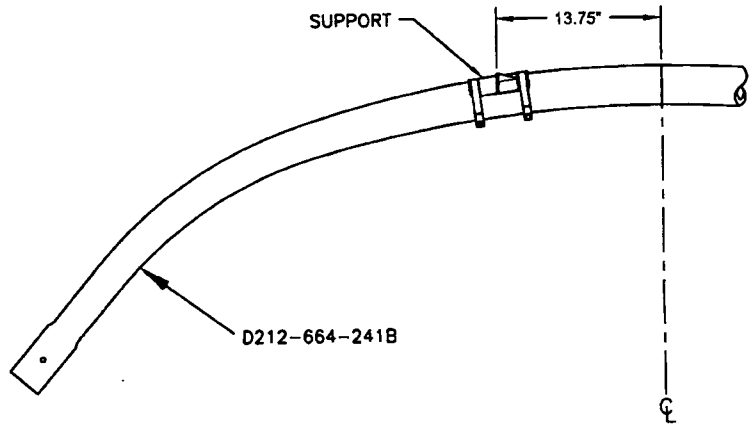


FIGURE 1 - SUPPORT INSTALLATION

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REFERENCE ONLY

5.0 PARTS LIST

5.1 HIGH GEAR CROSSTUBES

Item	-101	-201	-203	Part Number	Description
	X			**D212-664-101**	**CROSSTUBE INSTALLATION, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH FWD**
		X		**D212-664-201**	**CROSSTUBE INSTALLATION, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH AFT**
			X	**D412-664-203**	**CROSSTUBE INSTALLATION, 412 HIGH AFT**
1	1			D212-664-141	CROSSTUBE ASSEMBLY, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH FWD
2		1		D212-664-241	CROSSTUBE ASSEMBLY, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH AFT
3			1	D412-664-243	CROSSTUBE ASSEMBLY, 412 HIGH AFT
10	2			* D2893-1	SUPPORT
11	4			* D3595-063-450	RUBBER CUSHION
12	4			* MS21920-25	CLAMP (OR MS21042-26)
13	4			AN6-35A	BOLT
14	4			AN6-36A	BOLT
15	6			MS21042L6	NUT (OR MS21042-6)
16	18			AN960JD616	WASHER
20		2		* D2940-1	SUPPORT
21		4		* D3595-063-530	RUBBER CUSHION
22		4		* MS21920-28	CLAMP (OR MS21042-30)
23		4		AN6-40A	BOLT
24		2		AN6-41A	BOLT
25		6		MS21042L6	NUT (OR MS21042-6)
26		18		AN960JD616	WASHER
30			1	* D2896-1	SUPPORT
31			2	* D2856-600-1009	ABRASION STRIP
32			2	* D3595-063-570	RUBBER CUSHION
33			4	* MS21920-28	CLAMP
34			2	* MS21920-30	CLAMP (OR MS21042-32)
35			4	AN6-40A	BOLT
36			2	AN6-41A	BOLT
37			6	MS21042L6	NUT (OR MS21042-6)
38			18	AN960JD616	WASHER
39			2	* D3189-1	CHAFING SHIELD
50	1	1		D3428-1	PLACARD

*REFERENCE ONLY. PARTS ARE INCLUDED IN D212-664-141/-241 OR D412-664-243 ASSEMBLIES ABOVE

NOTE: KITS INCLUDE EXTRA HARDWARE FOR COMPATIBILITY WITH BOTH DART AND BELL/AA SKIDTUBES.

518815

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IREN

LIQUID PENETRANT TEST REPORT

P- 14954

PAGE 1 OF 1

	DAT AEROSPACE	DATE	SEPT 28-2009 TIME AM ☑ PM ☐
ION	LINDA / CHANTEL	ACUREN JOB NO.	188-09-001561
SS	1270 ABERDEEN ST.	PO/WO NO.	- 10482
	HAWKESBURY ON.	WORK LOCATION	HAWKESBURY
	K6H 1K7	ACCEPTANCE STD.	ASTM 1417 REV./DATE 2007
T	F.P.I. ON MACHINED PARTS AND		
EXAMINED	CROSS TUBES.		

DESCRIPTION	PROCEDURE NO. LT-1002 REV./DATE	TECHNIQUE NO. LT TECH 2 REV./DATE
D. STAINLESS STEEL AND	MATERIAL ALUMINUM ALLOY	THICKNESS -

WET FLOURESCENT LIQUID PENETRANT INSPECTION CARRIED OUT 100% EXTERNAL

DETAILS

	☑ FLUORESCENT	☐ VISIBLE	☑ WATER WASH	☐ SOLVENT REMOVABLE	☐ POST EMULSIFIED
BRAND	2467 - MAGNAFLUX		BLACK LIGHT S/N 16459	☐ OUTPUT > 1000 μ W/CM²	☐ AMBIENT < 2 fc
ANT	2467	MINIMUM DWELL TIME 10	MIN.	LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT	☐ OUTPUT>100 fc @ SURFACE
ANT REMOVER	1420	MINIMUM DRY TIME >10	MIN.	OTHER LABINO	
PER	SKD 52	MINIMUM DWELL TIME 10	MIN.	LIGHT METER S/N	CAL DUE DATE DEC. 8-2009
PER TYPE	☑ NON AQUEOUS ☐ AQUEOUS	☐ DRY			

SURFACE

E CONDITION	☐ AS GROUND	☐ AS WELDED	☑ MACHINED	☐ SHOT BLASTED	☑ CLEAN BARE METAL
E TEMPERATURE	☐ < - 4°C/ 20°F	☐ - 4°C/ 20°F TO 10°C/50°F		☑ 10°C/50°F TO 52°C/125°F	☐ > 52°C/125°F

TS- (☑ METRIC ☐ IMPERIAL)

W.O. 51882 - CROSS TUBE ✓

- W.O. 51881 - CROSS TUBE ✓
- W.O. 52334 - CROSS TUBE ✓
- W.O. 52335 - CROSS TUBE ✓
- W.O. 52495 - MOUNTS ✓
- W.O. 51096 - MOUNTS ✓
- W.O. 51097 - MOUNTS ✓

- AN INSPECTION WAS DONE ON W.O. 52270 - ONE ITEM WAS REWORKED DUE TO HOLE SIZE AT BRACKET.
- EXAMINATION OF THIS AREA WAS CARRIED OUT AND RESULTS AS FOLLOWS
- FOUND ACCEPTABLE TO CODE

09 09 28

rvices
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criptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as
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TURES

REPRESENTATIVE	Eric Downing (PRINT)		SIGNATURE	DTR # E-27840
CIAN (SIGNATURE):				REPORT REVIEWED BY:
(PRINT):	Mike Johnston (1ST TECHNICIAN)		(2ND TECHNICIAN)	NAME / INITIALS
	CGSB LEVEL 2 SNT LEVEL 2	CGSB LEVEL	SNT LEVEL	
	CGSB REG. NO 6066	CGSB REG. NO		

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